

Yarmouk University
Faculty of Economics & Administrative Sciences
Accounting Department

A Comparative Analysis of the Use of Graph Disclosure in the Firms' Annual Reports in Emerging Markets: The Case of Arabian Banks

تحليل مقارن لاستخدام الإفصاح البياني في التقارير السنوية للشركات في الأسواق الناشئة: حالة البنوك العربية

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Thesis Submitted in Partial Fulfilment of the Requirements for the Degree of Master in Accounting at Yarmouk University

April, 2014



Committe Decision

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This Thesis is Submitted in Partial Fulfilment of the Requirements for the Degree of Master in Accounting at Yarmouk University.

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Many people have contributed greatly to this thesis. Without their assistance, and support completing this work would not have been possible. To each of them, I owe my sincere thanks and gratitude.

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And I wish to thank my dearest parents, brothers, and sisters who were the main source of encouragement and inspiration to me throughout my life. Finally i would like to thank my lovely friends for always being there for me and for all the supports they provided me. Without their love and encouragement, I would not have the strength and ability to complete this thesis.

Dedication

This Thesis Is Dedicated To:

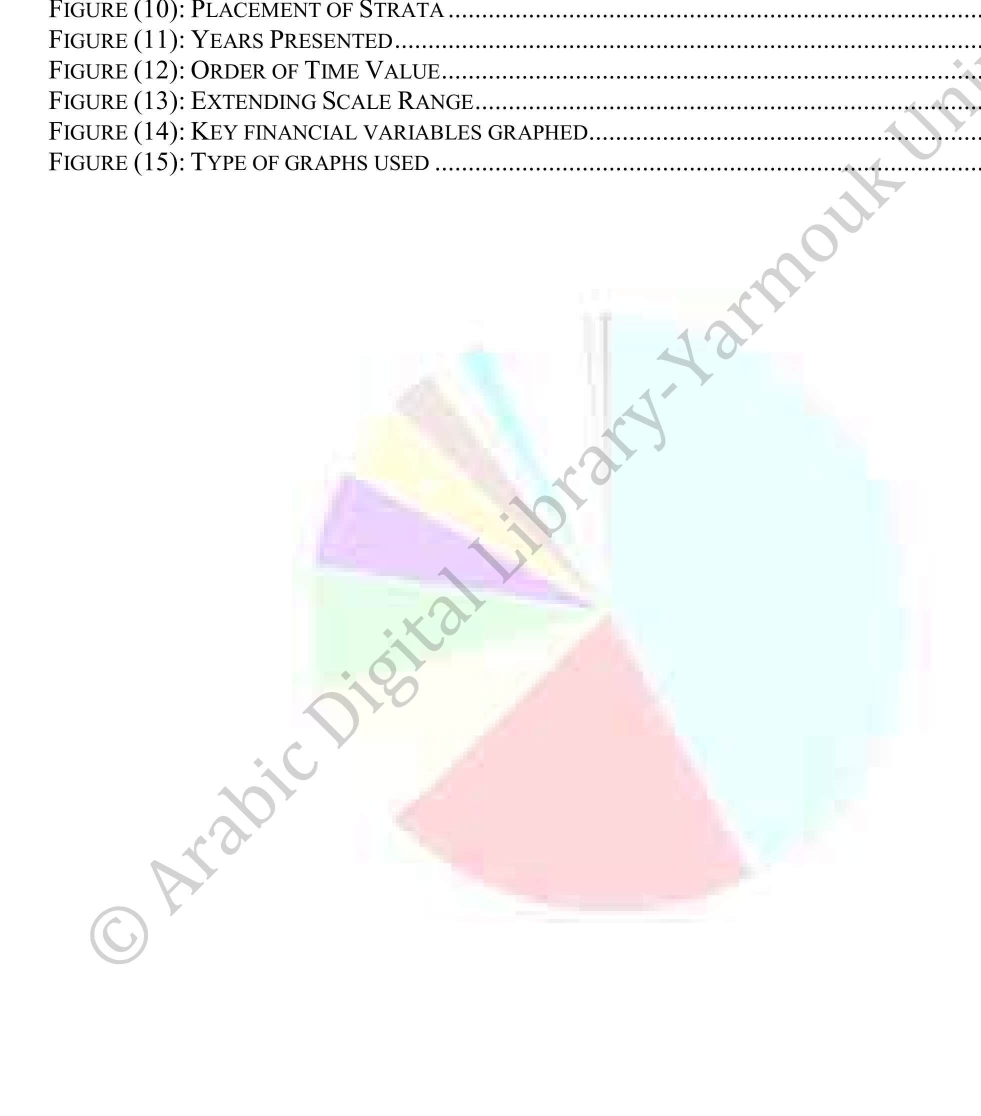
My Dearest Parents
My Brothers and Sisters
My Friends

For their Love, Support and Encouragement

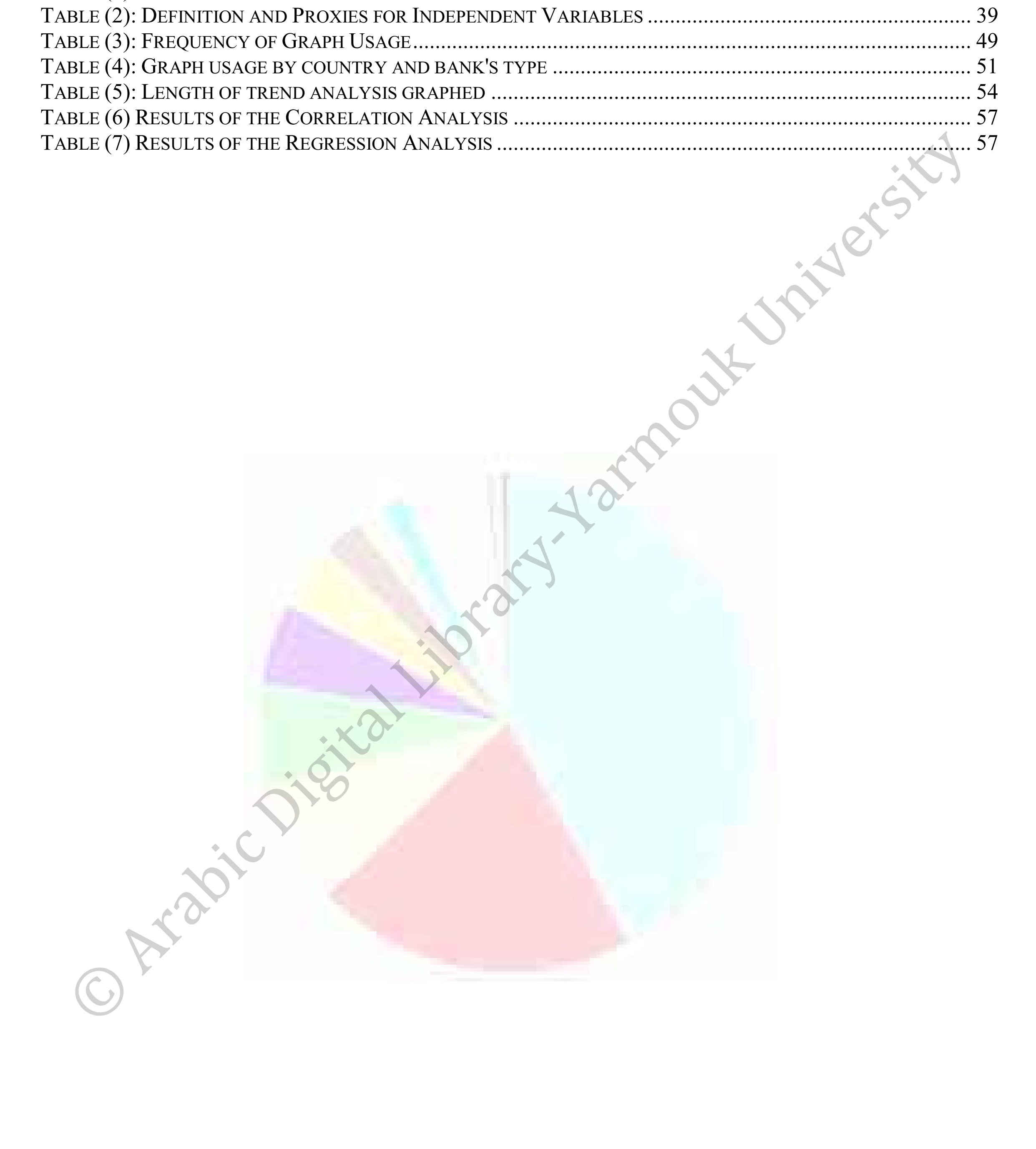


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Abstract

Nisreen Abd Al-Mouti Al-Kilani. A Comparative Analysis of the Use of Graph Disclosure in the Firms' Annual Reports in Emerging Markets: The Case of Arabian Banks.

Master in Accounting, Yarmouk University, Jordan, 2014.

(Supervisor: Dr. Iaad Issa Mustafa Al-Sartawi).

This study aimed to examine the extent and nature of using graphs, as a form of voluntary disclosure, in the annual reports of Arabian banks. Content analysis is used to collect the required data from the 2012-annual reports of 50 Islamic and traditional Arabian banks belong to 13 countries.

The study revealed that more than half of the Arabian banks use graphs to present and communicate quantitative information to the users of their annual reports. Gulf council banks use graphs in their annual reports less extensively than non-Gulf council banks. Furthermore, banks' performance positively influences the extent of using graphs. However, the existence of non-executive directors has a negative impact on graph usage. The study also provided clear evidence on the use of graphs as a tool of impression management by Arabian banks. Annual reports audited by one of the big-4 firms include more distorted graphs. In addition, banks with low net income or decreasing earnings tend construct graphs in a way that distorts the information presented through them and creates a completely different impression in the minds of the users. Accordingly, the study recommends regulators in Arab countries to set special guidelines for good-graph construction to be followed by firms, and thus prevent graphs from being used as a tool to distort the users of the annual reports.

Key words: Graphical disclosure, impression management, Arabian banks

ملخص الدراسة

نسرين عبدالمعطي الكيلاني. تحليل مقارن لاستخدام الإفصاح البياني في التقارير السنوية للشركات في الأسواق الناشئة: حالة البنوك العربية.
ماجستير في المحاسبة، جامعة اليرموك، الأردن، 2014.
(إشراف: د. إياد عيسى مصطفى السرطاوي).

هدفت هذه الدراسة إلى اختبار مدى وطبيعة استخدام الإفصاح البياني –كأحد أشكال الإفصاح الاختياري– في التقارير السنوية للبنوك العربية. وقد تم استخدام أسلوب تحليل المحتوى للتقارير السنوية لعام 2012 لما مجموعه 50 بنكا إسلاميا وتقليديا تنتمي إلى 13 دولة عربية، وذلك من أجل جمع البيانات اللازمة للدراسة.

وتوصلت الدراسة إلى أن أكثر من نصف البنوك العربية تستخدم الرسوم البيانية كوسيلة لعرض وإيصال المعلومات الكمية لمستخدمي تقاريرها السنوية. وبالإضافة إلى ذلك فإن البنوك في دول مجلس التعاون الخليجي تستخدم الرسوم البيانية في تقاريرها السنوية بشكل أقل من البنوك في باقي الدول العربية. كما أن استخدام الرسوم البيانية من قبل البنوك العربية يزداد مع زيادة وتحسن أدائها المالي، إلا أنه يقل مع زيادة نسبة الأعضاء المستقلين في مجلس الإدارة. وقد توصلت الدراسة إلى أدلة تشير بوضوح إلى استخدام البنوك العربية للرسوم البيانية كأداة لخلق انطباع معين لدى مستخدمي تقاريرها السنوية. وتبيّن أن أكثر العوامل تأثيرا في استخدام هذه البنوك للرسوم البيانية كأداة لإدارة الانطباع هي الأداء المالي للبنك، كما تبيّن أن التقارير السنوية التي تدقق من قبل مكاتب التدقيق الكبيرة تحتوى على عدد أكبر من الرسوم البيانية المضللة. وفي ضوء تلك النتائج أوصت الدراسة بضرورة قيام الجهات التشريعية في الدول العربية بوضع تعليمات وإرشادات للشركات حول الاستخدام الأمثل للرسوم البيانية كأسلوب من أساليب الإفصاح الاختياري في تقاريرها السنوية، وذلك لمنع استخدامها كأداة لتضليل مستخدمي هذه القوائم.

الكلمات المفتاحية: الإفصاح البياني، إدارة الانطباع، البنوك العربية.

CHAPTER ONE: INTRODUCTION

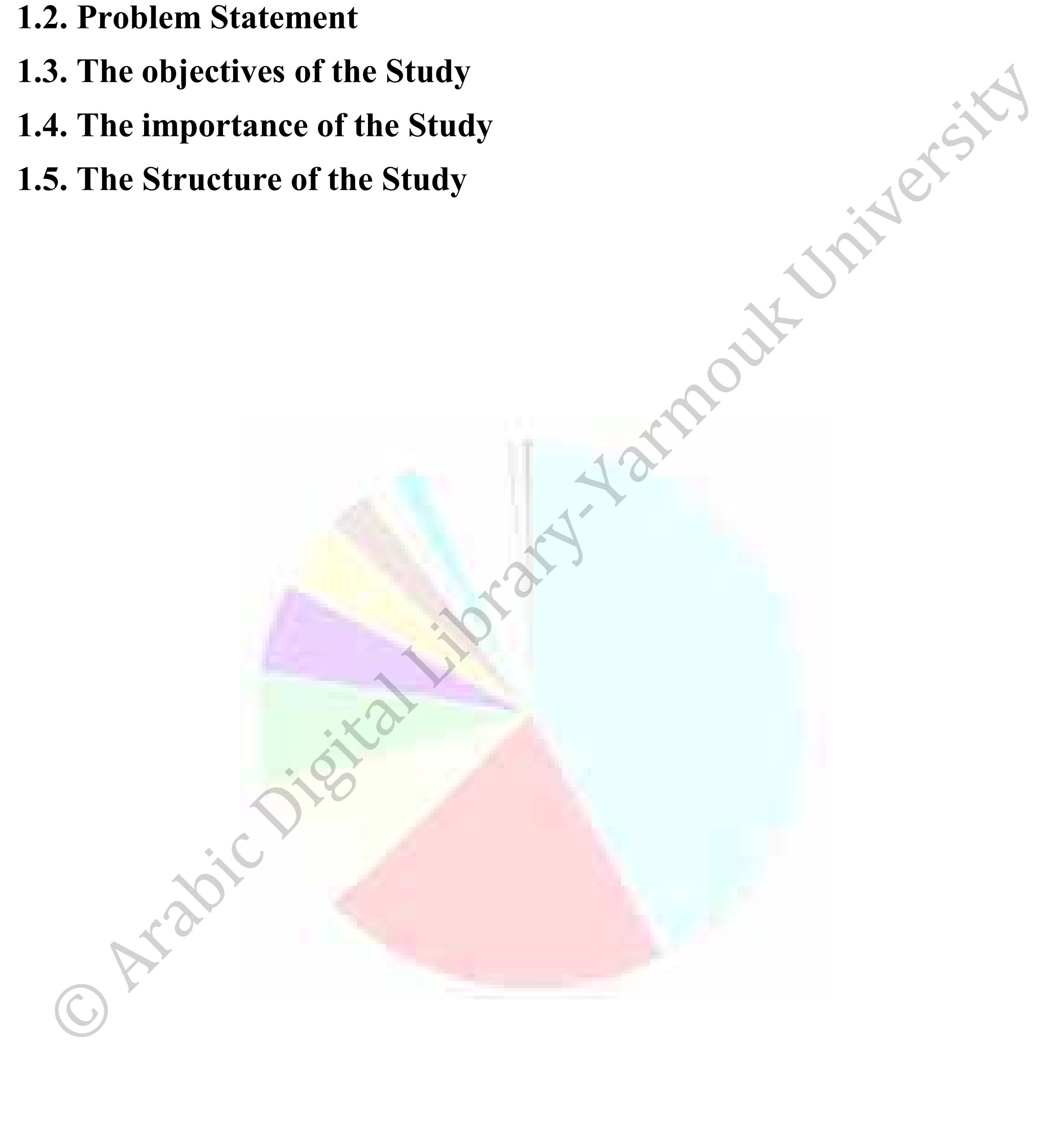
1.1. Background and Rational

1.2. Problem Statement

1.3. The objectives of the Study

1.4. The importance of the Study

1.5. The Structure of the Study



1.1. Background and Rational

Corporate annual reports are considered the major tool for firms to communicate with their stakeholders (Uyar, 2009). The main purpose of these reports is to provide stakeholders with relevant and reliable information about the firm's performance, financial position, and future prospects to help them making rational decisions (Ho and Wong, 2003).

The information disclosed by the annual reports is classified as either compulsory or voluntary. Compulsory disclosure includes mandatory information required by various laws, regulations, and professional organizations -at local and international levels- such as: Firms Law, Securities Law, Accounting Standards, etc. (Yu and Chen, 2009). However, this information is inadequate for satisfying users' needs. Moreover, it may not be sufficient to accurately represent the complexity of the firm's operations (Mohanram, 1998).

Voluntary disclosure represents the free choice of management to offer additional information beyond what is mandatory required (Yuen *et al*., 2009). It complements mandatory information and aims to improve corporate image, maintain positive relationship with investors, and decrease capital costs. This information can be presented in the form of narratives, tables, photographs, and graphs.

Graphs are an alternative method of communicating information to stakeholders (Chevailer and Ray, 1993). They have many advantages over the other forms of presenting information. For example, graphs are more user-friendly than tables (Beattie and Jones, 1997). They save the reader's time in analyzing information. Moreover, graphs can be easily understood and remembered compared to tables (Smith and Bain, 1987). Because of these advantages, many users favour graphs to narrative texts and tables. Empirical evidence reported by Zweig (2000) shows that many users look only to the graphs instead of reading the whole annual report. Similarly, David (2001) reports that 75% of annual report users in the UK prefer to use graphs. Moreover, because graphs are visually appealing and effective means of communicating financial information (Chevailer and Ray, 1993), many firms in developed countries use graphs in their annual reports (Steinbart, 1989). For example, Beattie and Johns (1997) show that 92% of leading U.S. and 80% of leading U.K. large listed firms use graphs. Similar results are found in France (Jounini, 2013), Turkey (Uyar, 2009), and Australia (Beattie & Jones, 1999). However, Mather *et al*. (1996) argue that graphs can be used by management to influence the perception of users and to create a favourable impression. Empirical results from advanced markets support this argument; for example, studies by Cho *et al.* (2012), Robin and Tuttle (2009), and Saorin *et al.* (2009).

On the other hand, there is a lack of research about graphical disclosure in emerging markets. Thus, it would be difficult to know whether, or not firms in these markets use graphs in their annual reports? In addition, it would be difficult to know whether, or not these graphs are used to communicate information or to influence user's perception. Therefore, the purpose of the current study is to investigate graphical disclosure practices in emerging markets.

1.2. Problem Statement

Financial graphs are a voluntary presentational medium that is widely used by many firms in advanced markets to communicate information to stakeholders (Steinbart, 1989). Furthermore, many users prefer to look at the graph instead of going through the whole report (Zweig, 2000). This is because graphs can be processed by the brain much faster than other forms of presenting information (Courtis, 1997). Empirical studies show that many firms use graphs extensively in their annual reports. For example, in the US (91%) of the firms use graphs (Burgess, 2002), in Canada (83%) (Chevalier and Roy, 1993), in UK (79%) (Beattie and Jones, 1992), in Netherlands (90%), and in Germany (84%) of firms use graphs (Beattie and Jones, 2001).

Despite this increase in the usage of graphs in the annual reports, they are not audited by the external auditor (Penrose, 2008). Current auditing standards do not require auditors to report that the graphs are properly stated in the annual report. This auditing exemption may encourage management to use graphs as a mean of deceiving stakeholders (Smith and Taffler, 1995). The empirical evidence from advanced markets supports this argument. For example, Cho *et al.* (2012), Robin and Tuttle (2009), and Saorin *et al.* (2009) study.

If this is the case in the advanced markets, what should be expected regarding graphical disclosure in emerging markets?

In light of the above discussion, the problem of the current study can be summarized in the following questions:

1- Do banks in emerging markets use graphs in their annual reports as a tool for communicating information to stakeholders?
2- What factors explain the differences among banks in emerging markets in using graphs in their annual reports as a tool for communicating information to stakeholders?
3- Do banks in emerging markets practice impression management through distorting the financial graphs presented in their annual reports?

1.3. The Objectives of the Study

The aim of this study is to, empirically, investigate the use of graphs in the annual reports of the banks in emerging markets. More precisely the study seeks to:

1- Identify and describe the nature and extent of using graphs in the annual reports of the banks in emerging markets.

2- Identify the factors that explain the differences in using graphs in the annual reports of the banks in emerging markets.

3- Investigate and analyze the presence of distortion in the graphs in the annual reports of the banks in emerging markets.

1.4. The Importance of the Study

The current study is expected to contribute to the literature on voluntary disclosure and impression management in different ways. For example, the study provides empirical evidence on the nature and extent of using graphs in the annual reports of banks in emerging markets. In addition, it adds to the body of knowledge of the voluntary disclosure by focusing on one of its aspects, graphical disclosure, that has not been widely researched in emerging markets. Moreover, it provides empirical evidence on whether or not firms in emerging markets practice impression management through the manipulation of the financial graphs. Finally, the findings of the current

study could be of great interest to regulators and professional organizations who are concerned with uniformity of financial presentation and with investor protection to consider the development of guidelines for graphical presentation of financial information.

1.5. The Structure of the Study

Chapter 1: Introduction

This chapter provides an overview of the study. It includes a brief background and rational, problem statement, objectives and importance of the study.

Chapter 2: Theoretical Framework and Literature Review

This chapter provides an overview about graphs and the concept of impression management. Also, it provides a review of the empirical studies on graphical disclosure.

Chapter 3: Research Methodology

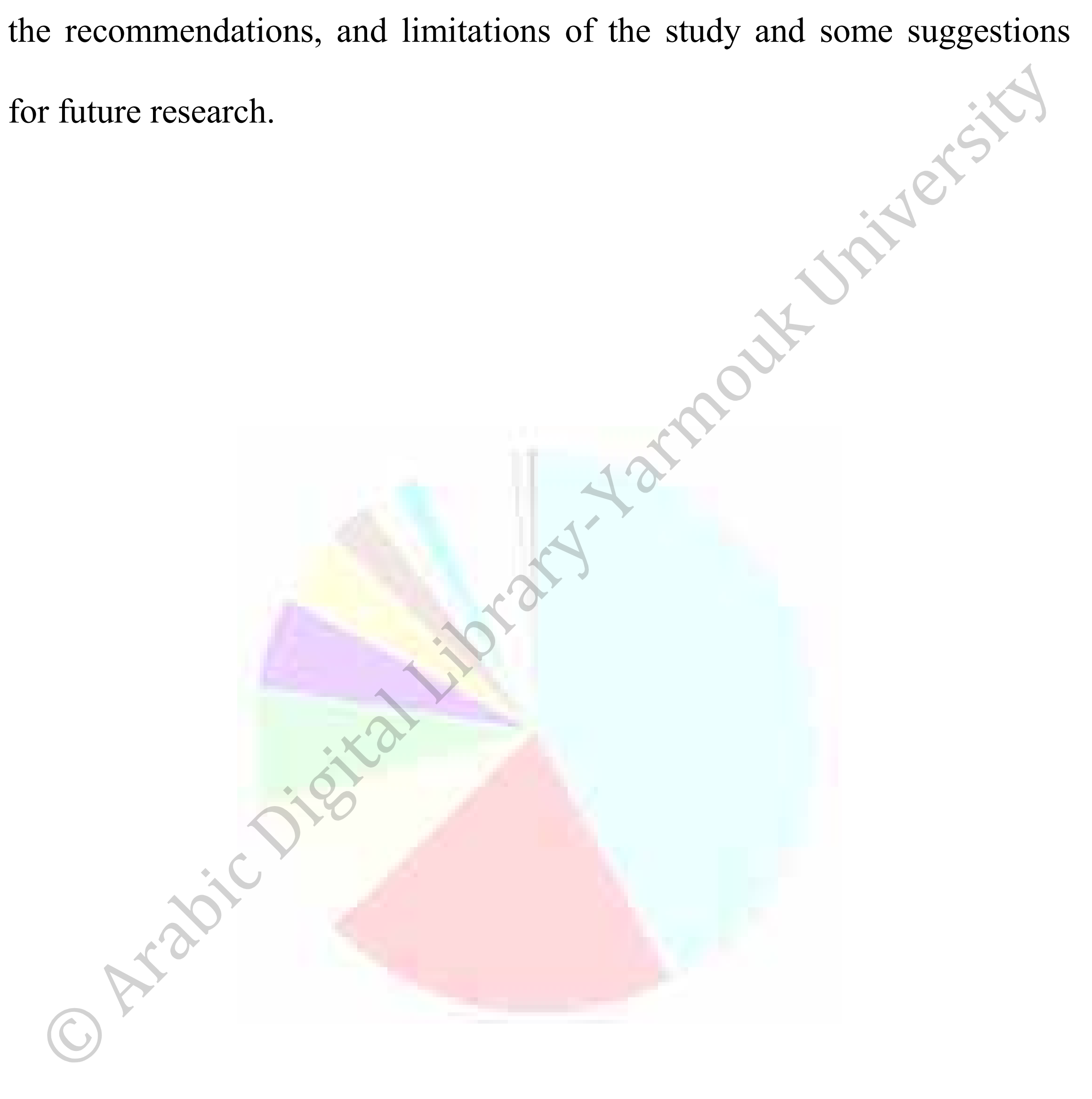
This chapter describes the study population and sample, data collection methods and procedures, variables and model to be tested. Also, it presents the hypotheses to be examined in the current study.

Chapter 4: Data Analysis and Hypotheses Testing

This chapter presents the empirical results of testing the proposed model. Also, it presents the result of testing the hypotheses.

Chapter 5: Conclusions

This final chapter presents the conclusions of the study. It also discusses the recommendations, and limitations of the study and some suggestions for future research.

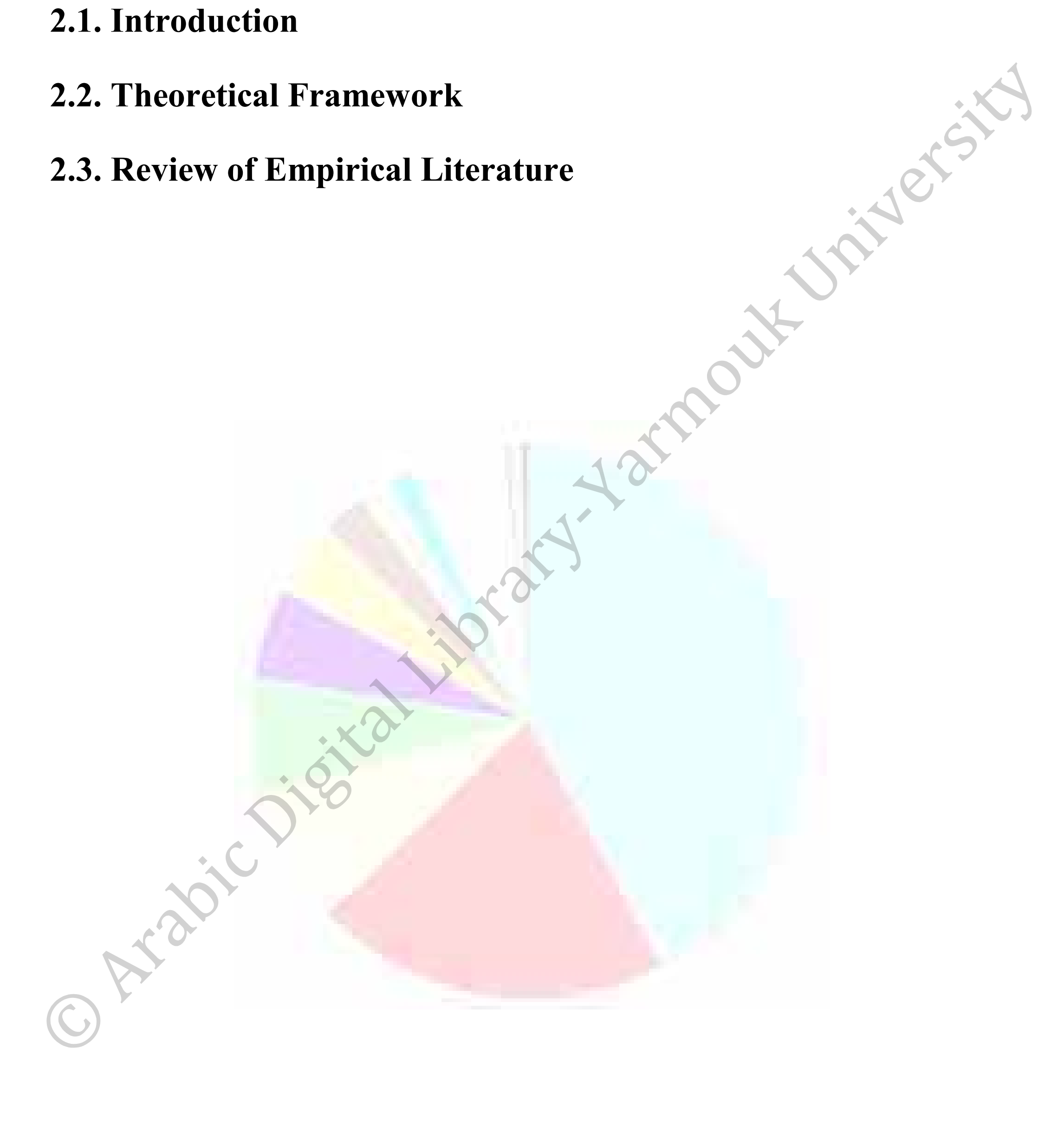


CHAPTER TWO: THEORETICAL FRAMEWORK AND REVIEW OF EMPIRICAL LITERATURE

2.1. Introduction

2.2. Theoretical Framework

2.3. Review of Empirical Literature



2.1 Introduction

The current study aims to investigate graphical disclosure in the annual reports of banks in emerging markets, and if there is any evidence to suggest that these graphs are used by management to create a favourable influence (i.e., as a tool of impression management). This chapter consists of two major sections: Section 2.2 provides an overview about the theoretical framework of the current study. Section 2.3 presents a review of the empirical literature on graphical disclosure.

2.2 Theoretical framework

2.1.1. The Graphs

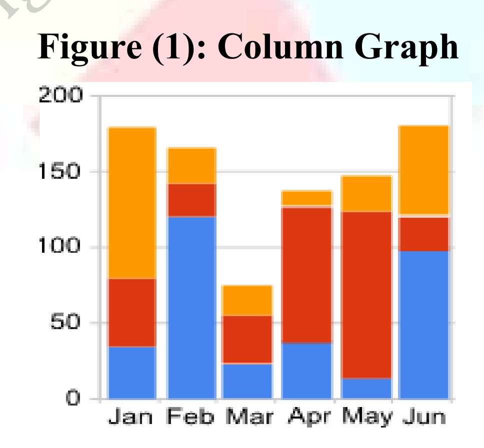
Graphs are a form of voluntary disclosure that firms may use in their annual reports to present information in a pictorial form. Graphs are a voluntary presentational medium that may be used either to summarize or to present mandatory or voluntary information in the annual report (Pittoni, 2009). Previous studies have found that more than 80% of firms in advanced markets include graphs in their annual reports. For example (91%) of the US firms use graphs in their annual reports (Burgess, 2002), (88%) in France, and (90%) in Netherlands (Beattie and Jones, 1992).

Graphs have many advantages for the users of the annual reports. For example, graphs break down language barriers and facilitate understanding the information displayed. In addition, they highlight trends, clarify relationships, and save the user's time in analysing data (Courtis, 1997). Furthermore, graphs emphasize important information in the reader's mind (lynch & golen , 2002).

There are Six basic types of graphs (Kelley, 2002). They are:

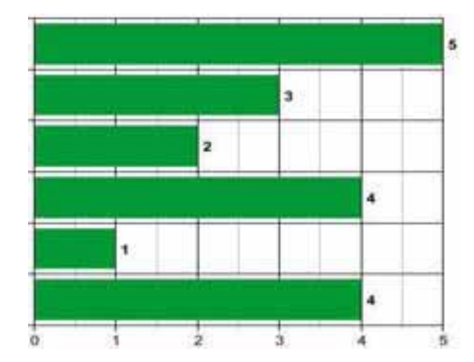
- **Column**: Column graphs consist of patterned rectangles displayed along a baseline called the x-category. The height of the rectangle represents the amount of the data on it, and column graphs are more appropriate for time series data than bar graphs.

Figure (1): Column Graph



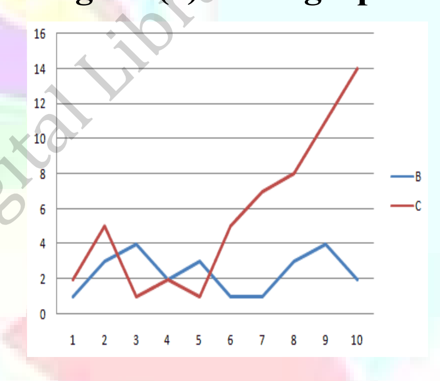
- **Bar**: Column graphs in which the rectangles are arranged horizontally. The length of each rectangle represents its value.

Figure (2): Bar graph



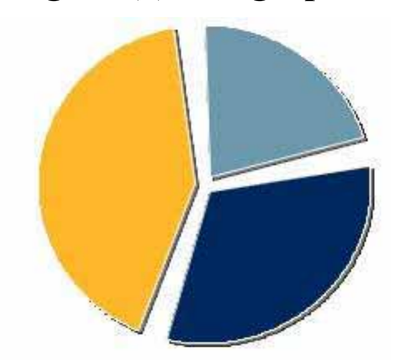
- **Line**: is a graph which connect the data points with the lines; different series are given different line markings (for example, dashed or dotted) or different tick marks.

Figure (3): Line graph



- **Pie chart**: is a circle with radii connecting the center to the edge. Slice is the area between two radii. Data values are proportionate to the angle between the radii.

Figure (4): Pie graph

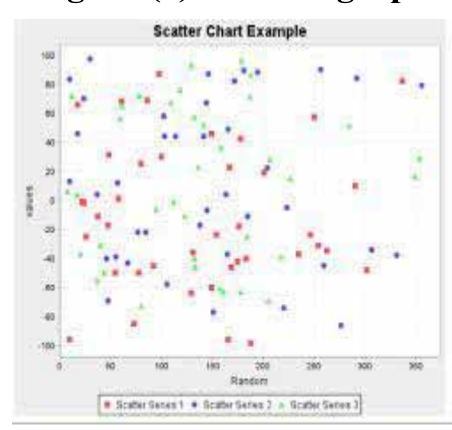


- **Area**: are "stacked line graphs" in the sense that values are added to the variables below. Unlike line graphs, the space between lines is filled with shadings.

Figure (5): Area graph

- **Scatter**: sometimes called "dot" graphs or XY graphs, plot the relationship between two variables, along the x-axis and along the y-axis. Because of this, scatter graphs do not have descriptors in the same sense as other graphs.

Figure (6): Scatter graph



Despite all the advantages and benefits of graphs, they can be used by management to mislead readers through inappropriate construction techniques and misrepresentation of data (Beattie & Jones, 1992). Furthermore, the lack of precision in drawing graphs distorts the accuracy of the information graphed. Combining and condensing information causes loss of detail, which may mislead the readers of the annual report. The inclusion or exclusion of certain data, the colours used, and shading can be misleading too (Courtis, 1997). These issues are discussed in more detail in the following sub section.

2.1.2. Using Financial Graphs as a Type of Impression Management

The corporate annual report consists of audited-mandatory information and unaudited-voluntary information. The amount, type, and format of voluntary disclosure are left to management discretion. Thus, the voluntary nature of graphical disclosure enhances the potential for impression

management. Empirical evidence shows that a significant proportion of graphs included in the corporate annual reports are materially distorted to portray a favourable corporate performance (Mather *et al.,* 1996).

Impression management refers to "any action purposely designed and carried out to influence an audience's perception of an organization" (Elsbach *et al*., 1998). A variety of techniques can be used by management to influence the reader's impression. Graphs are considered one of the important impression management techniques (Frownfelter-Lohrke and Fulkerson, 2001).

Tufte study (1983) sets some basic principles that must be followed to obtain unbiased and undistorted graphs. For example:

1. Graphs should be proportionally correct when depicting the magnitude of change. This is particularly important when using bar charts to graph trend data.
2. The heights of the bars should be proportional to the underlying data and contain at least three data points.
3. Labels and visual effects used should be clear and not distracting to the reader.
4. Monetary units should be used when graphing time series data.

If these principles are ignored, graphs can be misleading and direct readers to conclusions that do not reflect the underlying data (Beattie and Jones, 2002).

Impression management using financial graphs can occur in four ways: (Beattie and Jones, 2000).

1. Selectivity -on an annual basis- whether or not to use graphs at all.

2. Selectivity in the variables to graphed.

3. Graph design features.

Colour is considered one of the important graph design features that can influence the perception of people. It influences how the brain absorbs information. Furthermore, it helps readers to grasp important elements of a graph, and thus influences their emotional responses (Lynch & Golen, 2002). For example, **red** indicates a loss. **Green** represents strength and provides users with a positive feeling that management is qualified to effectively mange their investments. **Blue** symbolizes security and trust. Users feel that they can rely on the management. **Black** is a serious colour that means that the firm is making a profit.

On the other hand, colours used must be compatible with culture. In the U.S for example, black or green are associated with financial gain but red is associated with financial loss. In many other countries, these colours may have different connotation (Lynch & Golen, 2002).

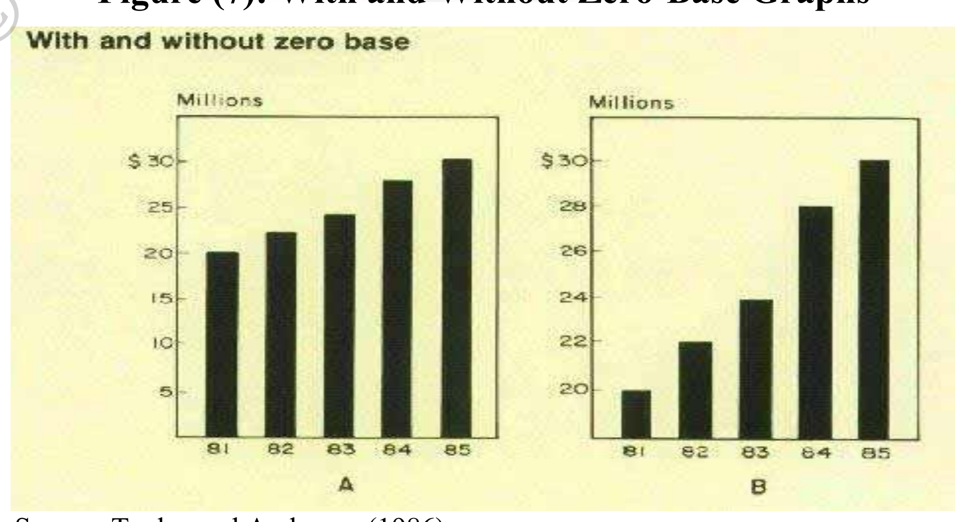
4. Graph construction techniques

There are seven guidelines for the accountant who is considering whether graphs used in financial reporting are materially inconsistent with the financial statements by Taylor and Anderson (1986) :

- Omitting the zero base of comparison:

If zero is not included in a comparative graph, changes and/or differences are puffed up, and unimportant changes will look important. Figure (7) shows an example of with and without zero base charts.

Figure (7): With and Without Zero-Base Graphs



Source: Taylor and Anderson (1986)

- Using arithmetic graph rather than rate of change graph with time series:

In the rate-of change graph the vertical axis is divided logarithmically, while the horizontal axis representing time is divided at equal intervals. Thus, relative changes are represented accurately. Figure (8) shows the typical arithmetic graph and the rate of- change graph plotted for the same data.

Figure (8): Arithmetic and Rate of-Change Graphs

Source: Taylor and Anderson (1986)

- Using multiple-amount scales:

The use of multiple-amount scales on the same graph results in misrepresenting relationships. Studies show that many readers do not understand their purpose. Figure (9) shows an example of Single- and multiple-amount scales.

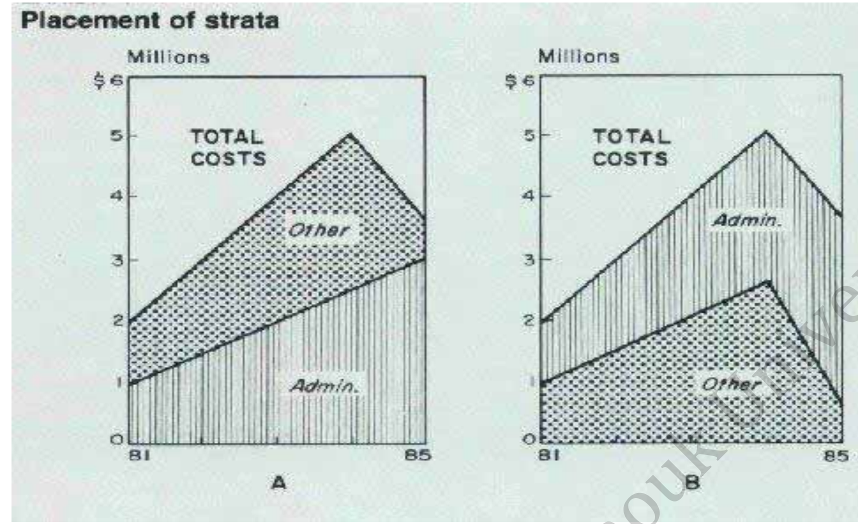
Figure (9): Single and Multiple Amount Scales

Source: Taylor and Anderson (1986)

- Placing the most irregular stratum at, or near, the top of the graph.

The basis for reading the values of strata, or layers, is the distance between the plotted lines, not the distance from the horizontal axis. The stratum showing marked irregularities should be placed at or near the top, and the less variable stratum should be placed along the baseline. Figure (10) shows that graph A, administrative costs are increasing sharply, but in graph B, where administrative costs are plotted on top, the format inaccurately implies that those costs are decreasing.

Figure (10): Placement of Strata



Source: Taylor and Anderson (1986)

- Choosing the years to be presented:

The choice of the starting date for a graph affects user's perceptions of firm performance. In Figure (11), graph A shows that 1983 is the lowest of five years of net income. However, in graph B the year 1983 appears to be the base of an increasing net income.

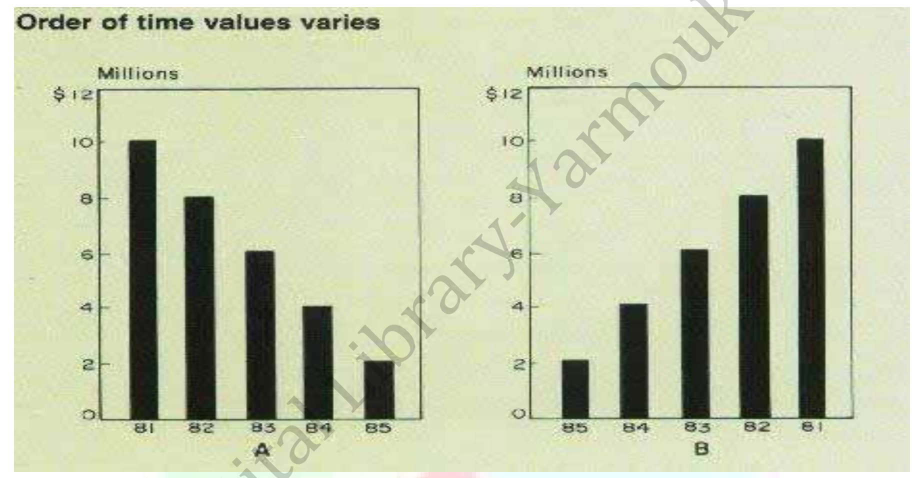
Figure (11): Years Presented

Source: Taylor and Anderson (1986)

- Reversing the order of time values used in the financial statements:

In a time-series graph, time values are usually represented as positive and usually move from left to right on the horizontal axis. If the time series is reversed, as in Figure (12) that many viewers of the graphs may not read the scales.

Figure (12): Order of Time Value

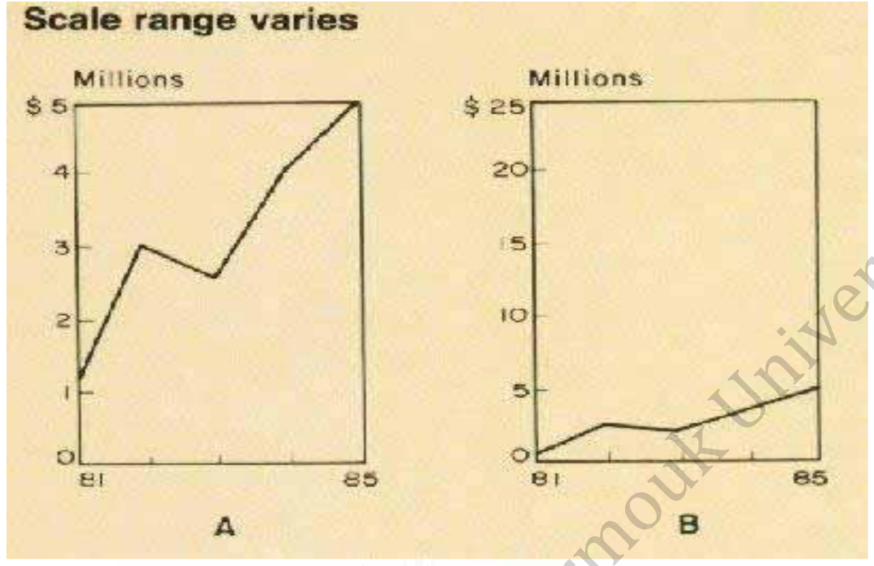


Source: Taylor and Anderson (1986)

- Extending the scale range much beyond the highest or lowest points plotted on the graph:

A long scale range may occasionally produce a more realistic representation. However, a very long range may depress the picture, reduce the movement of the curve, and move it nearer to the base line as shown in Figure (13).

Figure (13): Extending Scale Range



Source: Taylor and Anderson (1986)

2.3 Review of Empirical Literature

The vast majority of empirical studies on graphical disclosure come from advanced markets. Evidence from emerging markets are very limited. Following is a review of the available literature.

The study of **Beattie and Jones (1992) "The Use and Abuse of Graphs in Annual Reports: Theoretical Framework and Empirical Study":**

The study aimed to identify the nature and extent of graph usage, to identify and analyze instances of non-compliance with the principles of graph construction, and to investigate the relationship between the incidence of graph use and abuse, and measures of corporate performance. The annual reports of 240 large UK firms for the year ended 1989 were

analyzed to extract the required data. The study reported that graphs are widely used by UK firms. Firms with 'good' performance are more likely to use graphs. In addition, the study found significant evidence of graph measurement distortion in 30% of the graphs examined. Material measurement distortions occur, with the underlying numerical data being exaggerated by an average of 10.7%.

The study of **Mather, *et al* (1996) "The Use and Representational Faithfulness of Graphs in Australian IPO Prospectus":**

The study investigated the use of graphs, and the construction of graphs in prospectuses issued by Australian firms. Data were obtained form the 1992 annual reports of 150 Australian Firms. The study showed that firms with higher profit are more likely to use graphs of key financial variables in their prospectuses than firms with deteriorating profit. Moreover, No significant relationship is found between performance on the variables being graphed and distortion in the construction of the graph. **.**

The study of **Beattie & Jones (1997) " A Comparative Study of the Use of Financial Graphs in the Corporate Annual Reports of Major U.S and U.K Firms":**

The study investigated the way in which the largest 100 U.S. and 100 U.K. Industrial firms communicate financial information to external users using graphs. Data were extracted form 1990-1991 annual reports. The study revealed that 92% of U.S. firms use graphs compared with 80% of U.K. firms. Sales, earnings per share, dividends per share, and an earnings measure are the four most frequently graphed financial performance variables in the U.S. and the U.K. Some differences in several of the variables graphed are found, and explained in terms of environmental factors. In these countries, evidence of graphical information manipulation exists in the form of selectivity, measurement distortion, and presentational enhancement.

The study of **Courtis (1997) "Corporate Annual Report Graphical Communication in Hong Kong: Effective or misleading?":**

The study was conducted to examine the advantages and limitations of graphs in corporate reporting in Hong Kong. 254 annual reports for the period 1992-1995 were the source for the required data. The study found that 36% of the annual reports examined include chart graphics. The

construction techniques used in approximately half of all graphs violate the principles of constructing graphs and are therefore misleading.

The study of **Beattie & Jones (1999) "Australian financial graphs: An empirical study"**:

The study aimed to investigate the nature of graph use and departures from representational neutrality in Australian firms. The required data were collected from the annual reports of the top 100 firms listed on the Australian Stock Exchange at the end of 1992. The study revealed that 89% of Australian firms use graphs with an average of 9.4 graphs per annual report. The most commonly graphed financial variables are sales, profit, earnings per share and dividend per share. The study found that the use of graph in the annual reports is contingent upon favourable performance. Moreover, the result found that material measurement distortion is found in 34% of all key financial graphs. Thus, providing evidence of impression management.

The study **of Beattie & Jones (2000) " Impression Management: the Case of Inter-Country Financial Graphs":**

This study examined measurement distortion of key performance variables (KPVs) graphs. Two important forms distortion (selectivity and

measurement distortion) were investigated in the financial graphs of the corporate annual reports of 300 firms in Germany, Australia, the Netherlands, the U.K., France, and the U.S. The study reported that financial graphs are used selectively in Australia, the U.K., and the U.S. In addition, measurement distortion is found in the Netherlands and the U.S. The effect of these graphical practices is to give a more favourable view of financial performance than is actually warranted. Evidence provided shows that impression management is greater in those countries with strong capital markets.

The study of **Beattie & Johnes (2001) "A Six Country Comparison of the Use of Graphs in Annual Reports":**

This study analyzed the financial graphs in the corporate annual reports of 50 firms in Germany, the Netherlands, Australia, the UK, France, and the US. The study showed that there is little variation in the percentage of firms using graphs in their annual reports. Six KFVs are graphed by more than 25% of the firms in these countries. These are: sales, earnings, dividends per share, earnings per share, return on equity, and cash flow. Inter-country differences in terms of KFVs graphed are found.

The study of **Frownfelter-Lohrke and Fulkerson (2001) "The Incidence and Quality of Graphics in Annual Reports: An International Comparison":**

The study was conducted to compare incidence and quality of graphs in annual report of U.S. firms and non-U.S. firms listed in two of major U.S. stock exchanges: New York and American Stock Exchanges. The annual reports for 270 firms from 12 countries were analyzed. The study revealed that non-U.S firms use graphs in their annual reports more than U.S. firms. On average, the annual report of a non-U.S firm includes 9.36 graphs compared to 7.46 graphs per U.S firm. However, both U.S. and non-U.S. firms present graphics that may be misleading to users.'

The study of **Beattie & Johnes (2002) "Measurement Distortion of Graphs in Corporate Reports: An Experimental study":**

The study was conducted to determine what level of measurement distortion is sufficient to affect the perceptions of users. Six levels of “distortion” are investigated (5%, 10%, 20%, 30%, 40% and 50%). An experimental approach is used where a total of 52 second-year business students who had completed a one-year course in accounting participated in the experiment. The results found that, to avoid distorting the users perceptions, measurement distortions in excess of 10% should not be

allowed in financial graphs. The result found also that, users with lower levels of financial understanding appear to be most at risk of being misled by distorted graphs.

The study of **Amer (2005) "Bias Due to Visual Illusion in the Graphical Presentation of Accounting Information":**

The study was conducted to demonstrate that visual illusion might bias decision makers who view data from the graph, even if the graph is prepared according to key-preparation guidelines. A laboratory study used to examine the study objective. (129) accounting students from a large public university participated in the study. A laboratory study incorporated a 2 x 2 design to examine the effects of the so-called "Poggendorff illusion" and the possible mitigating effect of adding horizontal gridlines. The study found that decision makers may systematically underestimate or overestimate the values displayed on line graphs. The study found also that, the bias can be moderated by adding horizontal gridlines, or reduces the variance in some values decision makers view in graphs.

The study of **Isa, *et al*. (2006) "Graphical Information in Corporate Annual Report: An Exploratory Survey of Users Perceptions":**

The study investigated the perceptions of users of corporate annual report (CAR) with regard to the graphical information in corporate annual report. Total of (120) questionnaires were distributed to selected users of CAR in the period between January and March 2005 by convenience sampling. Responses from (52) respondents who completed the questionnaire were examined. The study found that users of CAR ranked graphical information of statistical data as second after financial statements. The five most important variables graphs preferred by respondents are: earnings, sales graph, earning per share, share price and cash flow. Graphical disclosure in CAR was considered sufficient by majority of the respondents who were not fully aware of major criteria of good graphical constructions and designs.

The study of **Munio and Trombetta (2009) "Does Graph Disclosure Bias Reduce the Cost of Equity Capital?":**

The study investigated the effects of distorted graphs on the cost of equity capital. The annual reports of Spanish companies quoted in the Madrid Stock Exchange (MSE) between 1996 and 2002 are analyzed. The results of this investigation found that graph disclosure bias has a significant

effect, but temporary, on the cost of equity. Moreover, the study highlighted the important role played by the overall level of disclosure as a conditioning factor in the relationship between graphs and the cost of equity. The results also, enhance the understanding of the complex interactions in the stock market between information, information intermediaries, and investors.

The study of **Pennington & Tuttle (2009) "Managing Impressions Using Distorted Graphs of Income and Earnings per Share: the Role of Memory":**

The study investigated the role of the memory in interpreting and using distorted graphs that mislead the user of the financial information, and whether reliance on memory for distorted graphs leads to different impressions of the data. (182) business students at two large southeast U.S. universities participated in this experiment during regularly scheduled classes. An experiment is conducted in which they manipulate the type of graph distortion, and whether the memory of the graph is required by the decision. The study found that individuals receiving misleading graphs are more likely to misinterpret underlying data trends, and these interpretation errors persist in memory and affect judgments and investment decisions.

The study of **Uyar (2009) "An Analysis of Graphic Disclosure in Annual Reports: The Case of Turkey":**

The purpose of this study was to compare patterns of graphic disclosure across different industries; and to assess the correlation between graphic disclosure and a number of key financial variables by the top 100 firms listed on the Istanbul Stock Exchange. Content analysis of the firms' annual reports for the year 2006 was used to extract the required data. The results showed that 75% of the firms include graphs in their annual reports. The average number of graphs was (8.6) graphs per annual report. Financial firms have the highest graph usage per annual report (10.16). The most widely graphed financial variables are sales and earnings. Moreover, a significant positive correlation is found between graphic disclosure and the firm size and profitability.

The study of **Uyar (2011) "Firm Characteristics and Voluntary Disclosure of Graphs in Annual Reports of Turkish Listed Firms":**

The study aimed to investigate the association between firm characteristics and the voluntary disclosure level of graphs in annual reports of Turkish firms listed on the Istanbul Stock Exchange (ISE). To achieve this purpose, the study used five firm characteristics: auditor size, ownership structure, firm performance (profitability), and firm size. The content of the annual

reports of the corporations listed on the ISE-100 Index for the year 2006 is analyzed. The results of univariate and multivariate analyses indicated that auditor size, and firm size has significant positive relationship with voluntary disclosure level of graphs. But profitability and ownership structure do not have any significant association with graphical disclosure level.

The study of **Cho, *et al.* (2012) "Impression Management in Sustainability Reports: An Empirical Investigation of the Use of Graphs":**

The purpose of this study was to investigate whether firms use graphs in their reports in order to present a more favourable view of their social and environmental performance, and to investigate whether differences in the extent of impression management are associated with differences in social and environmental performance. Based on an analysis of graphs in the sustainability reports of 2006 for a sample of 77 U.S. firms, the study found a considerable evidence of favourable selectivity bias in the choice of items graphed. The result showed that graphs of social items in sustainability reports for firms with worse social performance exhibit more impression management. And there is no significant relation between environmental

performance and impression management in the use of environmental graphs.

The study of **Jouini (2013) "The Characteristics and Determinants of Voluntary Graphical Disclosure by French Listed Firms":**

The study attempted to describe and explain graphical disclosure practices in French Firms by analyzing the 2009 annual reports for 38 firms listed on the CAC40 Index. The study found that 90% of the firms include graphs in their annual reports, and the average number of graphs contained in annual reports is (22). The most commonly graphed financial variables are sales (and products), earnings, profitability, and stock performance. Furthermore, the study revealed that a firm size influences positively the use of graph whereas the stock performance has a negative impact on the number of graphs used.

2.4 Concluding Remarks on the Empirical Studies

In Sections 2.3, a number of empirical studies on graphical disclosure were presented. Now, some concluding remarks about these studies are presented.

Contexts of the studies: The majority of the studies were conducted in developed countries, especially the U.K., Australia and the USA. There were a few studies conducted in emerging markets like Malaysia and Turkey. This indicates a lack in the studies that were conducted in Arabian countries. From here, this study is considered as the first comparative study of the use of graph disclosure in the firm's annual report in the Middle East.

Issues and aspects covered: The main objectives of the previous studies and the aspects covered are identifying the nature and extent of graph usage, the advantages and limitations of graphs, and if graph bias decision makers who view data from the graph. Studies investigating the presence of distortion in the graphs in the annual reports through using some types of construction graph are almost few. Therefore, this study will address this aspect.

Time period of the studies: The studies were conducted on the annual reports from 1992 to 2011. This study will use the recent annual reports that are available on the websites of the Arabian banks. Using recent data of 2012 makes this study as one of the most recent studies in graph disclosure.

Sample - sectors: The majority of the studies focused on industrial and large firms. To the best of the researchers knowledge there is no study conducted on the Banking sectors. In general, the literature indicates that industrial firms and large firms use graphs extensively in their annual reports. The current study investigates graphical disclosure in the banking sector.

Methods used: The majority of the studies used the annual reports of the investigated firms as the main source for collecting data. Following previous studies, the current study uses annual reports of Arabian banks as the main source for collecting the required data. These reports can be easily obtained from the banks' websites (Norziana and Lokman, 2011).

CHAPTER THREE: METHEDOLOGY

3.1. Introduction

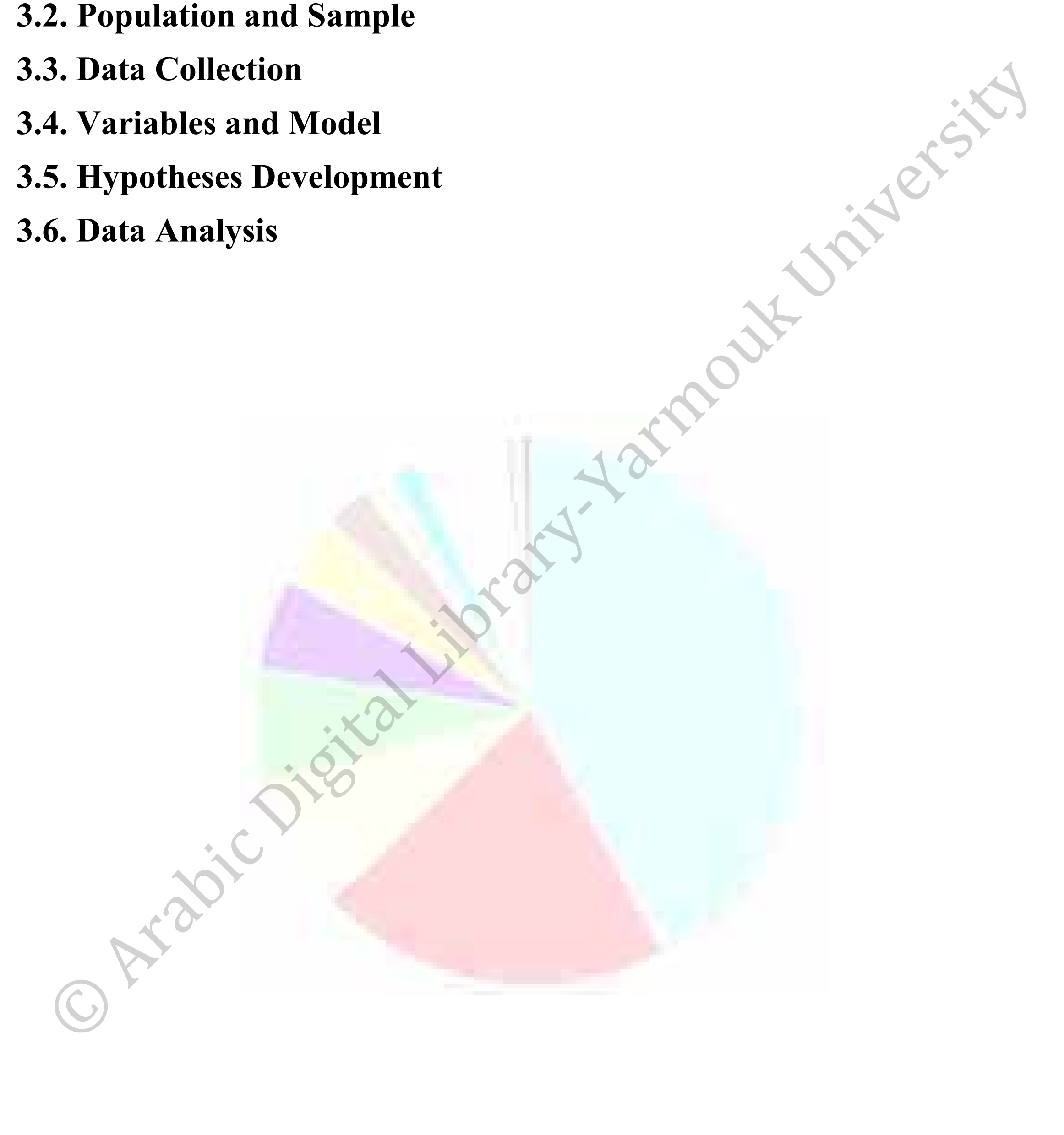
3.2. Population and Sample

3.3. Data Collection

3.4. Variables and Model

3.5. Hypotheses Development

3.6. Data Analysis



3.1. Introduction

The aim of this study is to investigate graphical disclosure in the annual reports of the banks in emerging markets. The current chapter presents the methodology used to accomplish this objective. Section 3.2. presents the study population and sample selection criteria. Section 3.3 explains data collection method. Section 3.4 discusses the variables and the model to be investigated. The hypotheses development and data analysis techniques are presented in Sections 3.5 and 3.6 respectively.

3.2. Population and Sample

The population of this study includes all Arabian banks. The decision was to select four banks from each country; two Islamic and 2 non-Islamic. However, the following obstacles faced the researcher:

1. The lack of a complete listing or directory that include the names and addresses of all Arabian banks.
2. In some countries, the language used in the annual report is French.
3. Many reports include only the financial statements.
4. Many banks provide snapshot and some indicators about their performance rather than a complete annual report.

As a result, the final sample includes only 50 banks from Jordan, Saudi Arabia, Kuwait, United Arab Emirates, Qatar, Bahrain, Lebanon, Iraq,

Yemen, Egypt, Morocco, Sudan and Oman. In addition, the above obstacles confine the study to one year only that is; 2012. Table (1) shows a summary of statistics of these banks.

Table (1): Summary of Statistics of Sampled Banks

	Min.	Max	Mean	S.D
SIZE (Approximately in $ million)	379	80,000	12,000	18,000
NI (Approximately in $ million)	-123	2,000	179	356
AGE	6	16	36.26	21.313
BODS	5	12	8.78	1.829
NEXD	2	12	7.84	2.384

Table (1) shows that the sampled bank varies in their size with an average size of $12 billion. Profitability ranges between $ -123 million and $2 billion. The age of the banks varies from 6 to 16 years. In addition, the table shows that the sampled banks varies in the size of their board of directors with an average of 9 members. Similarly, the number of non-executive directors ranges between 2 to 12, with an average of 7.8 members.

3.3. Data Collection

The data needed to carry out the current study is collected from the banks' 2012-annual reports available at the web sites of these banks. Content analysis is used to extract the required data from the annual reports.

3.4. Variables and Model

3.4.1. Dependent Variables

Graph usage is the dependent variable in the current study. This variable is measured by the number of graphs presented in the annual report of each bank.

3.4.2. Independent Variables

The independent variables in the current study include: age, performance, size, board size, board independence, nationality, and type of Audit firm. Table (2) presents the definitions of these variables and the labels assigned to them.

Table (2): Definition and Proxies for Independent Variables

Variable	Definition/Proxy	Label
Board size	The number of directors on the board.	BODS
Board independence	The proportion of non-executive directors to total number of directors.	NEXD
Nationality	A dummy variable, assigned 0 if the bank belongs to one of the Gulf Council Countries, and 1, otherwise.	NAT
Bank's size	Total assets at the end of 2012.	SIZE
Bank's performance	Net income at the end of 2012.	PERF
Bank's type	A dummy variable, assigned 0 if the bank is Islamic, and 1, otherwise.	TYPE
Bank's age	The time period between the bank's establishment date and 2012.	AGE
Audit firm	A dummy variable, assigned 1 if the audit firm is a big-4 and 0 otherwise.	AUDT

3.4.3. Model

The following model is estimated to examine the relationship between using graphs and other variables:

$$GU = \beta_0 + \beta_1 BODS + \beta_2 NEXD + \beta_3 NAT + \beta_4 SIZE + \beta_5 PERF + \beta_6 TYPE + \beta_7 AGE + \beta_8 AUDT + u$$

Where:

GU	Graphs usage
BODS	Board size
NEXD	Proportion of non-executive directors
NATI	Bank's nationality
SIZE	Bank's size
PERF	Bank's performance
TYPE	Bank's type
AGE	Bank's age
AUDT	Auditing firm
u	Error term, $(0, \sigma^2)$
B_k	Regression coefficients

3.5. Hypotheses Development

3.5.1. The Extent of Graph Usage

Graphical disclosure is one of the forms of voluntary disclosure. It helps the users of the annual reports to get the information they need. Graphs have many advantages for the users of the annual reports. For example, using graphs to save time in analysing data, facilitating understanding, highlighting trends and clarifying relationships, and generally breaking

down language barriers (Courtis, 1997). Previous studies indicate that graphs are used extensively by firms in advanced markets. For example, in the US, 91% of the annual reports display graphs (Burgess, 2002), in Australia 65% (Wilson and Stanton, 1996), in Canada 83% (Chevalier and Roy, 1993), in the UK 79% (Beattie and Jones, 1992). However, due to the lack of previous studies in emerging markets, the study assumes the following hypothesis:

H1: Arabian banks do not use graphs in their annual reports.

3.5.2. Board size

A graph is a form of voluntary disclosure. The relationship between board size and voluntary disclosure is well-established in the literature. Board of directors plays an important role in monitoring management actions. Increasing the number of board members improves the capability of the board in monitoring and controlling management actions (Fama & Jensen, 1983). The larger number of boards will lead to higher disclosure. The advantage of a larger number of boards is the more information that the board possesses (Dalton *et al*., 2005). Empirical evidence shows that larger boards tend to be associated to greater levels of information of voluntary disclosure (Cheng & Courtenay, 2006). Zhou & Panbunyuen (2008), Xiao & Yuan (2007), and Lim *et al.,* (2007), report similar results. Thus, the previous discussion leads to the following hypothesis:

H2: There is a significant positive relationship between board size and the extent of using graphs in the annual reports of Arabian banks.

3.5.3. Proportion of non-executive directors

Non- executive directors are members of the board of directors who are not from part of the executive team**.** Previous studies found a positive relationship between the proportion of non-executive directors and the amount of information voluntary disclosed. For example, Cheng & Courtenay (2006) reported that firms with a higher proportion of non-executive directors have significantly higher levels of voluntary disclosure .Similar results are reported by Leung & Horwitz (2004), Gul & Leung (2004), and Ho & Wang (2001). Thus, the previous discussion leads to the following hypothesis**:**

H3: There is a significant positive relationship between the proportion of non-executive directors and the extent of using graphs in the annual reports of Arabian banks.

3.5.4. Bank's Nationality

The extent of graph usage varies from one country to another. For example, in the US, 91% of the firms display graphs in their annual reports (Burgess, 2002), in Australia, Canada, and UK the percentages are 65% (Wilson and

Stanton, 1996), 83% (Chevalier and Roy, 1993), and 79% (Beattie and Jones, 1992) respectively. Similarly, it is expected that Arab banks differ in the extent of using graphs in their annual reports. Thus, the previous discussion leads to the following hypothesis:

H4: There is a significant relationship between banks nationality and the extent of using graphs in the annual reports of Arabian banks.

3.5.5. Bank's Size

Firm size is considered an important determinant to use graphs in the annual reports. There is a positive link between a firm's size and disclosure level (Ahmed and Courtis, 1999). Large firms may have the resources to disclose more information than small firms. Furthermore, large firms have more incentives to disclose information voluntarily, because they face higher political pressures and costs (Watts and Zimmerman, 1978, Buzby, 1975). Prior studies found also that the smaller the firm, the fewer graphs the firm is likely to disclose in its annual report. Similar results are reported by Lim *et al.,* (2007), Eng & Mak (2003), and Ho & Wong (2001). Thus, the previous discussion leads to the following hypothesis:

H5: There is a significant positive relationship between the bank size and the extent of using graphs in the annual reports of Arabian banks.

3.5.6. Bank's Performance

The extent of graphs usage and the choice of what variables should be graphed appear to be associated with positive performance. Beattie and Jones (1992) found that the choice to use graphs is positively associated with the direction of the graphed variable's performance, and with overall earnings performance. Steinbart (1989) found that 74% of US firms recording an increase in net income include financial graphs in their annual reports. Thus, we assume that the higher the bank's performance, the more graphs displayed in the annual reports. This leads to the following hypotheses:

H6a: There is a significant positive relationship between bank's performance and the extent of using graphs in the annual reports of Arabian banks.

H6b: there is a significant negative relationship between bank's perforamnce and using graphs as a tool of impression management.

3.5.7. Bank's type

Islamic banking has become more accepted and familiar in Islamic countries. The main difference between conventional and Islamic banks is that conventional banks are established under the principles of capitalism

and by charging interest, which is forbidden in Islamic banks because they are established under Islamic principles. There are few studies are conducted on this aspect. The previous studies found that there are little differences between Islamic and conventional banks, and a little significant positive relationship is found between the degree of the disclosures and the bank's type (Hassan *et al.,* 2012). While other studies found that, the Islamic banks are more interactive with the disclosure because they are retain Islamic principles (Maali, 2007). Thus, it leads to the following hypothesis:

H7: There is a significant relationship between a bank's type and the extent of using graphs in the annual reports of Arabian banks.

3.5.8. Bank's Age

The extent of using graphs in the annual reports of Arabian banks may be influenced by their age. The banks age in the sample vary between 6 and 116 years. A positive relationship is found by Hossain and Hammami (2009) who found that there is a positive significant association between the length of time a firm has been listed on a capital market and disclosure level. The reason behind this is that the newly established firms may suffer from the cost of publishing voluntary information (Owusu-Ansah, 1998). Studies by Alsaeed (2006), Hossain, and Reaz (2007) found that there is no

significant association between firm age and voluntary disclosure. Thus, it leads to the following hypothesis:

H8: There is a significant positive relationship between the bank's age and the extent of using graphs in the annual reports of Arabian banks.

3.5.9. Audit Firm

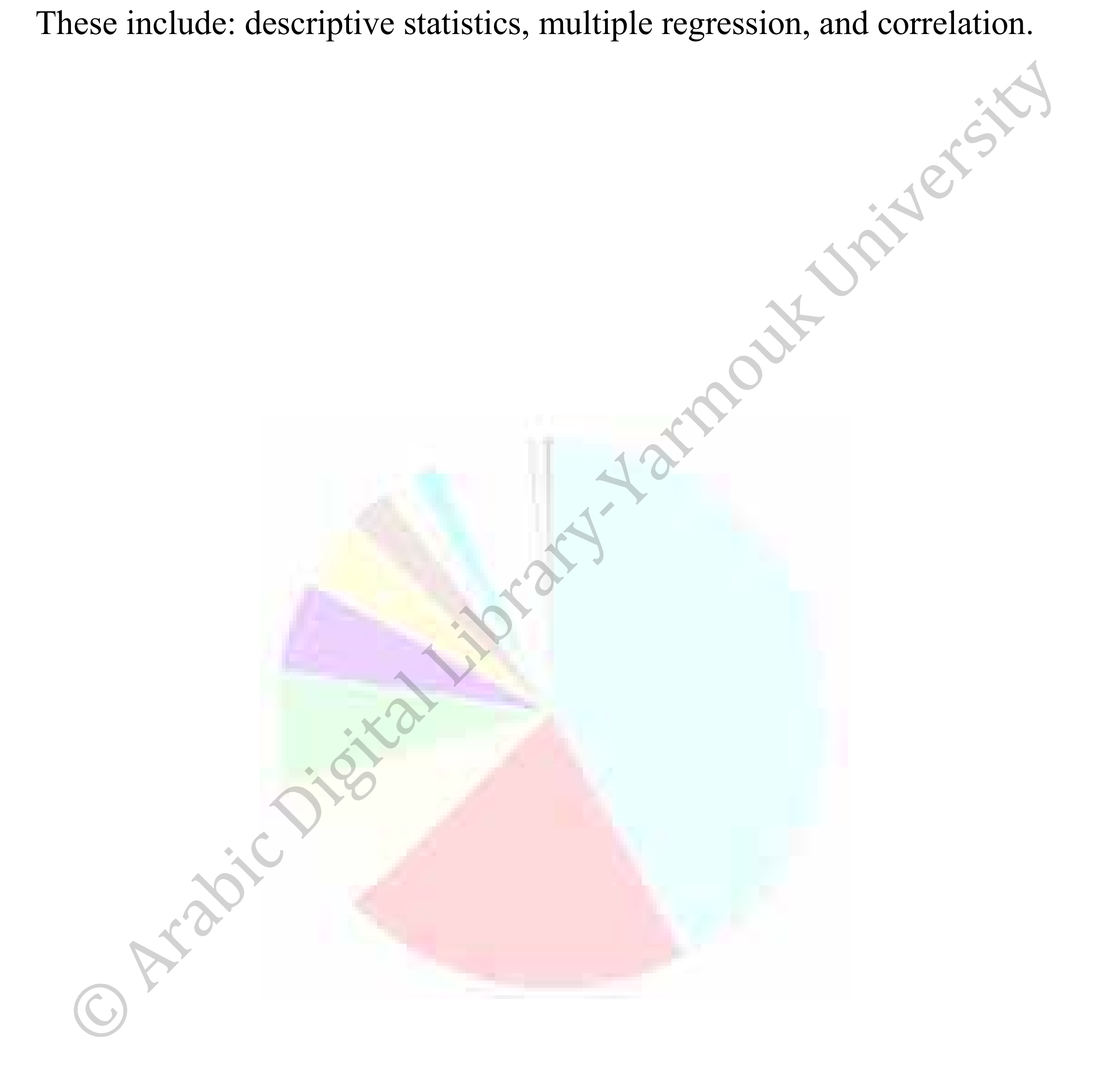
The relationship between audit firm (big-4: Price Warehouse Coopers, Deloitte Touche Tohmatsu, Ernst & Young, and KPMG, vs. other firms) and the graph disclosure have been investigated in previous studies. Malone et al. (1993) argue that small auditing firms are sensitive to client demands because of the economic consequences associated with the loss of a client. Empirically, a positive relationship between the audit firm and the graph disclosure is reported by Bonsón and Escobar (2006) and Aripin *et al*., (2009). Thus, the previous discussion leads to the following hypotheses:

H9a: There is a significant relationship between the Audit firm and the extent of using graphs in the annual reports of Arabian banks.

H9b: There is a negative relationship between the Audit firm and using graphs as a tool of impression managemnt.

3.6. Data analysis

Appropriate statistical techniques are used to test and analyse the data. These include: descriptive statistics, multiple regression, and correlation.



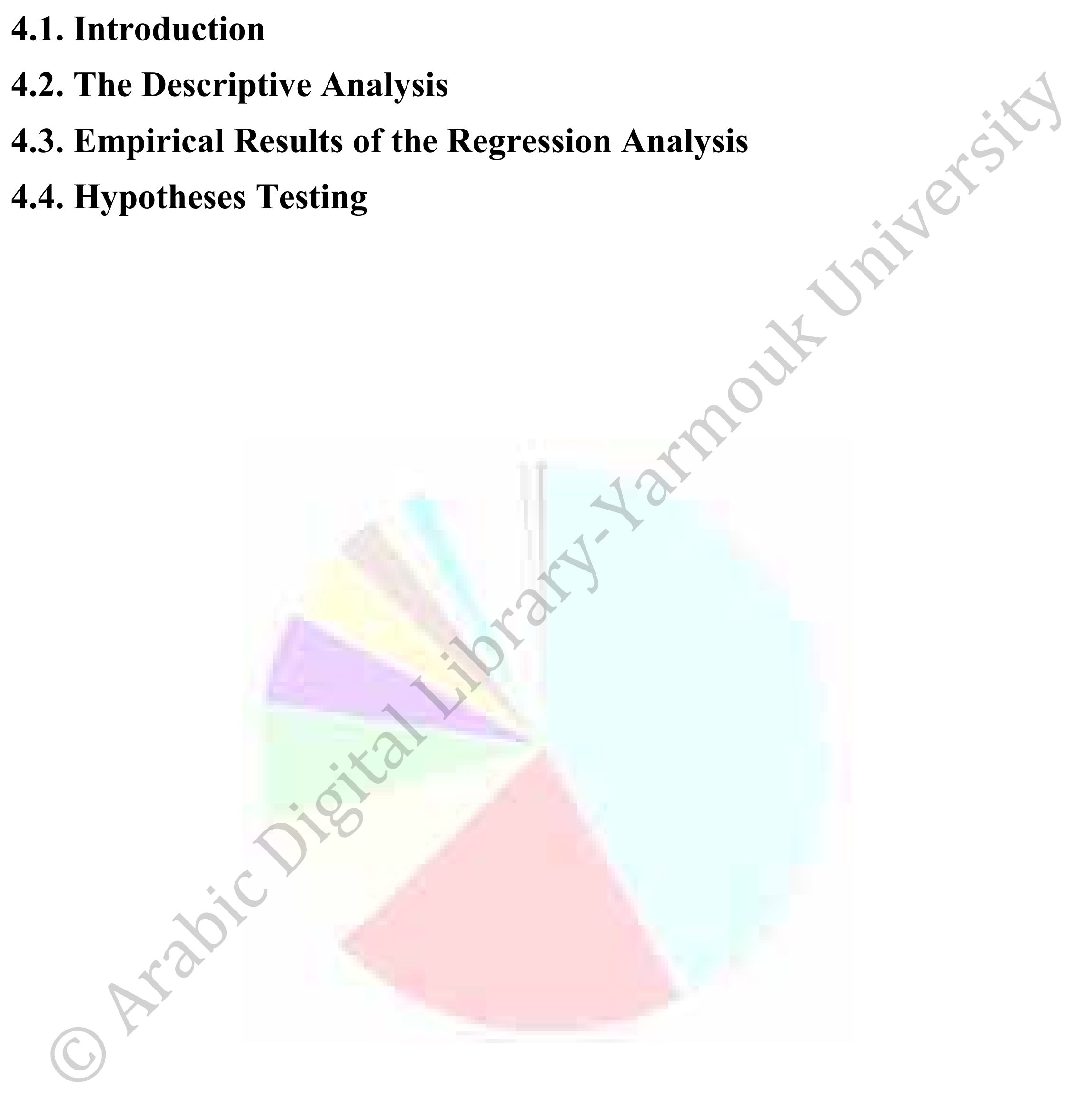
CHAPTER FOUR: DATA ANALYSIS AND HYPOTHESES TESTING

4.1. Introduction

4.2. The Descriptive Analysis

4.3. Empirical Results of the Regression Analysis

4.4. Hypotheses Testing



4.1. Introduction

In the previous chapters, the methodology implemented in the current study was discussed. This chapter presents the results of analysing the data and testing hypotheses. The chapter is structured as follows: Section 4.2 discusses the descriptive analysis of the variables. Section 4.3 presents the results of the regression analysis. The results of testing the study's hypotheses are presented in Section 4.4.

4.2. The Descriptive Analysis

4.2.1. The extent of using graphs in the annual reports of Arabian banks

The results of the dehscriptive analysis presented in Table (3) shows that (29) banks out of (50), (58%) use graphs in their annual reports, which means that Arabian banks use graphs in their annual report but not widely. Therefore, Hypothesis 1 cannot be accepted.

Table (3): Frequency of Graph Usage

	Frequency	Percent
Used	29	.58
Not Used	21	.42
Total	50	100

On the other hand, Appendix 1 shows that the average number of graphs per annual report is 5.4. In addition, the maximum number of graphs used is (20) whereas the minimum is zero. The graph usage rate for Arabian

banks (58%) is lower than the rates reported from US (91%) (Burgess, 2002), Canada (83%) (Chevalier and Roy, 1993), UK (79%) (Beattie and Jones, 1992), France (88%), Netherlands (90%), Germany (84%), and Australia (65%) (Wilson and Stanton, 1996).

The lower graph usage rate by Arabian Banks could be attributed to the perception of management that graphs are useless, and /or the belief that readers do not care about graphical disclosure (Uyar, 2009).

Table (4) shows the graph usage at the country level and bank type level. According to the Table, the highest usage rate (100%) is found in Kuwaiti and Moroccan banks, where as, the lowest usage rate (25%) is found in Egyptian, UAE, and Yemeni. In addition, the Table shows that there is a moderate usage of graphs by some countries like Jordan and Iraq. Also, the Table shows that the usage rate is similar in Islamic and Non-Islamic banks. A total of 8 Islamic banks out of 11 (72%) use graphs. Similarly, 13 conventional banks out of 18 (72%) use graphs.

Table (4): Graph usage by country and bank's type

Country	Number of banks use graph			Total
	Yes		No	
	Islamic	Conventional		
Bahrain	1	1	2	4
Jordan	1	2	1	4
Egypt	0	1	3	4
Iraq	2	1	1	4
Kuwait	2	2	0	4
Lebanon	0	2	2	4
Morocco	0	2	0	2
Qatar	1	1	2	4
Saudi Arabia	1	2	1	4
UAE	1	0	3	4
Yemen	0	1	3	4
Sudan	2	1	1	4
Oman	0	2	2	4
Total	**11**	**18**	**21***	**50**

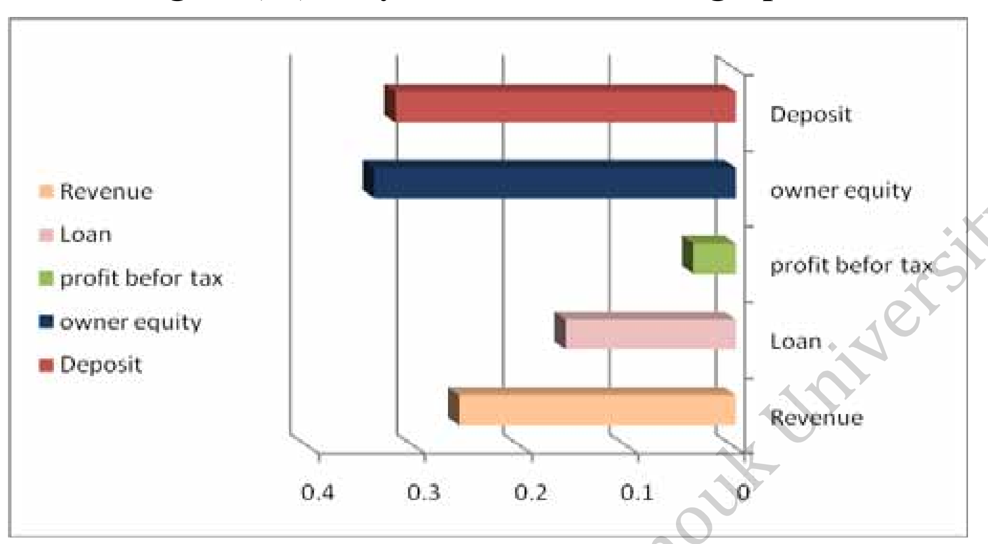
* Islamic banks: 8, Conventional banks: 13

4.2.2. Key variables graphed in the annual reports of Arabian banks

The results in Appendix (1) show that the maximum number of financial variable graphed is four and the minimum number is one. In addition, Appendix (2) shows that 18% of the sampled banks graph only one variable, while (6%) of them graph four variables

On the other hand, Figure (14) shows that the most widely graphed variables are owners' equity (34%) and deposit (32%). However, the least graphed variable is profit (4%).

Figure (14): Key financial variables graphed



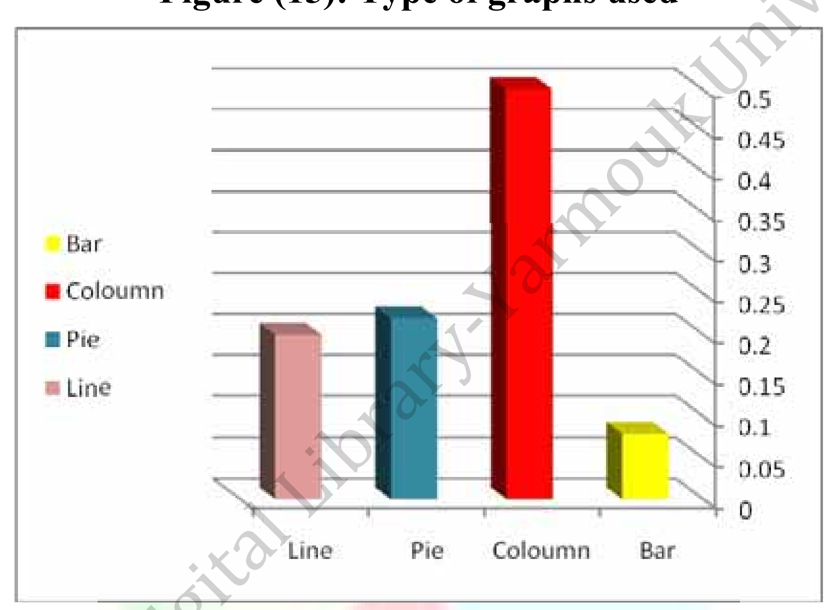
The results reported from advanced markets show that profit is one of the most widely graphed variables. For example, profit is graphed by 80% of firms in Germany, 66% in Australia, 68% in France, 70% in Netherlands, 44% in UK, 50% in USA, and % in Turkey.

4.2.3. Types of graphs used in the annual reports of Arabian banks

Figure (15) shows that four graph types are used by Arabian banks. These are: column (50%), pie (22%), line (20%), and bar (8%). Furthermore, We notice in this study that the banks use simple type of graphs, because simple representation is easier to read than a complex one, and it helps to retain attention of a reader, plus the ability to understand and memorize information can be improved through a simple representation rather than complex representation (Chekar and Martinez, 2009). These findings are

similar to the studies conducted by Beatie and Jones (1999) in the USA, UK, and Australia, Courtis (1997) in Hong Kong, And Uyar (2009) in Turkey.

Figure (15): Type of graphs used



4.2.4. Graphs trend years

Table (5) shows that time series graphed ranges from 1 year to 10 years. The most frequently used time series is 5 years. It is used by 63% of the Arabian banks. This percentage is higher than the one reported form US (41%), France (60%), and UK (51%). However, it is lower than the results reported form Netherlands (75%), Germany (65%), and Australia (71%) (Beattie & Jones, 2001). Moreover, the column graph is the most popular with time series in the annual reports of Arabian banks. This is consistent

with Beattie and Jones (1997) argument that the best graphs for presenting time series are bar and column graphs.

Table (5): Length of trend analysis graphed

Type of years trend	No.	Percent
One-year time series	2	7%
Three-year time series	5	19%
Five-year time series	17	63%
Ten-year time series	3	11%
Total	27	100

4.2.5. Using financial graphs as a type of impression management

One of the objectives of this study is to determine whether Arabian banks use graphs as a tool of impression management. For this purpose, the study focused on analyzing the graph design and the graph construction techniques. The result of this analysis is discussed in the following sub-sections.

4.2.5.1. Inserting Frames around graphs

The result in Appendix (1) shows that 80% of the banks do not insert frames around the graphs in their annual reports. When a graph is not framed, it might gives the users unreal impression about the variables being graphed, so it might seems greater than its real size. Also, the result found

that some banks use graphs without frame to give users the impression they want.

4.2.5.2. Colors used

Regarding the colours used, the results in Appendix (2) show that 46% of the graphs included in the annual reports of Arabian banks contain more than one colour. Appendix (1) shows that the maximum number of colours used is (15), indicating an average of 2.2 colours per annual report. Frownfelter-Lohrke and Fulkerson (2001) argue that the use of inappropriate or many colours in drawing graphs is one of the deficiencies in graph design. These colourful graphs are capable of being used as part of the impression management process (Beattie and Jones, 2000). For example, red is a colour that gives a good first impression, but in accounting red means loss.

4.2.5.3. Graph construction

The seven graph construction flows -suggested by Taylor and Anderson (1986)- that may be used to distort information presented through graphs are examined. The results in Appendix (1) show that 50% of the graphs are constructed without zero base. Also, 70% of the graphs have multiple amount of scale. It seems that some Arabian banks could be using graphs in their annual reports to influence or create a certain impression, which means that if zero base is not included in a comparative graph, unimportant

changes will look important. In addition, the use of multiple-amount scales on the same graph results in misrepresenting relationships.

To identify the variables that influence the bank's decision to use graphs as a tool for impression management, a correlation analysis is run between the extent of using distorted graphs and the following variables: Board size, non-executive director's proportion, auditing firm, bank's nationality, bank’s performance, bank’s size, bank’s type, and the bank's age.

The results in Table (6) show that there is a negative relationship between using graphs as tools of impression management, and the banks performance (β=.342). However, the relationship is found to be significant at the 5% level. Therefore, Hypothesis (6b) is supported.This result means that Arabian banks with low net income tend to use graph as a tool of impression management. Prior studies like (Muino and Trombetta 2009, Beattie *et al*., 2008; Godfrey *et al*., 2003; and Mather *et al*., 2000) found that the use of graphs as tools of impression management in the use of graphs is positively associated with a firm's performance. In addition, the result coincides with Pie & Steinbart (2002) who found that graphs for firms with the highest growth rate are always accurately drawn, while improperly are used by firms with the medium or lowest growth rates.

Table (6) also shows that the relationship between the use graphs as tools of impression management and the type of audit firm is Positive (β=.286). And statistically significant at the 5% level. Therefore, Hypothesis (9b) is not supported. The result means that annual reports of Arabian banks audited by the big-4 audit firms contains more manipulated graphs. Graph disclosures are normally unregulated and need not be audited. The voluntary nature of financial graphs means that management can control this part of the corporate annual report largely. Since this part of the report is not subject to the audit process, this raises a question about the role of big-4 firms in helping banks in this matter.

Table (6) Results of the Correlation Analysis

	Graphs Deconstructions
NET INCOME	-.342*
AUDT FIRM	.286*

*Correlation is significant at the 0.05 level (2-tailed).

4.3. Empirical Results of the Regression Analysis

Multiple regression analysis relies upon a number of classical assumptions. Before running the regression analysis, these assumptions have to be examined. The descriptive analysis presented in sections (**4.2**) shows dispersion in some independent variables. The appropriate functions are used to transform these variables in order to reduce their disparity. The problem of multi-collinearity is examined prior to running the multiple

regression. The Pearson correlation coefficients for the independent variables are calculated. The values of (*r*) ranges between -0.235 and 0.562 (Appendix 3), indicating no apparent evidence of severe multi-collinearity amongst these variables. Furthermore, VIF test suggests that the model does not suffer from any multi-collinearity problem where the VIF of all variables ranges between 1.02 and 1.18 (Gujarati, 2003). To test for heteroskedasticity, the Breusch-Pagan-Godfrey test (PBG) is used. The test is found to be statistically insignificant (Chi2 = 0.09, P= 0.146). This implies that the homoskedasticity assumption is not violated (Gujarati, 2003). A summary of the results of the regression analysis performed on the model is presented in Table (7).

According to Table (7), the model has an adjusted R^2 of 0.231. This means that the model explains almost 23% of the variation in the graph usage amongst sampled banks. Furthermore, the high probability of the F statistic (.003) means that the independent variables are jointly significant in explaining graph disclosure in the annual reports of the sampled banks.

The criteria used to test the hypotheses include the sign of the beta coefficient (β) of the independent variable and the level of significance (ρ).

To accept a hypothesis, the estimate sign of (β) should be the same as the expected sign, and the level of significance (ρ) should be less than .05.

Table (7): Results of the Regression Analysis

Dependent variable: DISC	
Independent variables	Final Model[1]
BODS	1.02 (.159)
NEXD	**-9.34** **(.041)****
NAT	**-4.49** **(.011)****
SIZE	.003 (.250)
PERF	**1.08** **(.008)***
TYPE	.487 (.535)
AGE	-.487 (.535)
AUDT	1.33 (.628)
Intercept	-2.84
Adj R^2	.231
F sig	.003
VIF	1.02-1.18

Numbers in brackets below the coefficient are the probability levels of significance.
[1] Corrected for heteroscedasticity.
* Significant at 1%, ** Significant at 5%.

Table (7) shows a positive relationship between the size of the board of directors BODS and the level of graph disclosure but is statistically

insignificant (β=1.02, ρ= .159). This means that as more directors are added to the board, its monitoring capacity increases, and thus more voluntary information is disclosed through graphs. However, the relationship is found to be insignificant. Therefore, Hypothesis (2) is not supported. This implies that the quality of the board monitoring is a function of efficiency rather than size (Uyar, *et al.,* 2013).

Table (7) also shows that NEXE has a significant negative coefficient (β=9.34, ρ=.041). Thus, Hypothesis (3) is not supported. This implies that non-executive directors in Arabian banks are practicing their monitoring role efficiently. It seems that non-executive directors oppose extensive use of graph, because they are aware that it can be used by management as to influence the perception of the users of the annual reports.

The Table also shows that the coefficient estimate on NAT is negative (β=4.49) but statistically significant at the .5 level (ρ= .011). Therefore, Hypothesis (4) is supported. It shows that non-Gulf council banks use graphs more extensively than Gulf Council banks. This implies that there is strong impact of the environment and cultures in the use of graphs in the annual reports of these countries.

Bank size SIZE is found to be insignificantly positively associated with graph usage (β= .003, ρ= .250). This finding does not supports Hypothesis (5). This result is inconsistent with (Chekar and Martinez) who found that the firm size influences positively the use of graph, and contradicts with what has been reported by (Uyar, 2011) who found that there is a significant positive association with voluntary disclosure level of graphs.

The relationship between Bank's performance PERF and Graph disclosure is found to be positive and significant at the .01 level (β= 1.08, ρ= .008). This finding supports hypothesis (6a). This result means that Arabian banks with high performance use graphs extensively to show users its positive performance. This result is similar to what has been reported by Steinbart (1989) who found that 74% of US firms recording an increase in net income include financial graphs in their annual reports, and by Beattie and Jones (1992) who found that the choice to use graphs is positively associated with the direction of the graphed variable's performance, and with overall earnings performance. This result contradicts with what was reported by (Uyar, 2011) and (Chekkar and Martinez) who found that the firm performance has no significant influence on the numbers of graphs.

Bank's type TYPE has an insignificant relationship with graph usage (ρ= .535), which means that there is no differences between Islamic and

conventional banks in using graphs in the annual reports of Arabian banks. This result is a bit similar to what has been reported by (Hassan et al., 2012) who found that there is little significant relationship between the degree of the disclosures and the bank's type. Therefore, Hypothesis (7) is not supported

Bank Age AGE has a negative relationship with graph usage (β= -.489). This means that newly established banks use graphs more extensively than old banks, however the relationship is insignificant (ρ= .535). Therefore, Hypothesis (8) is not supported. This result is inconsistent with (Hossain and Hammami, 2009) who found that there is a positive significant association between the length of time a firm has been listed on a capital market and disclosure level.

Type of audit firm AUDIT is found to be positively related to graph usage (β= 1.33), but statistically, it is insignificant (ρ= .628). Therefore, Hypothesis (9a) is not supported. This result is inconsistent with previous studies like (Uyar, 2011) who found that the type of audit firm has significant positive association with voluntary disclosure level of graphs.

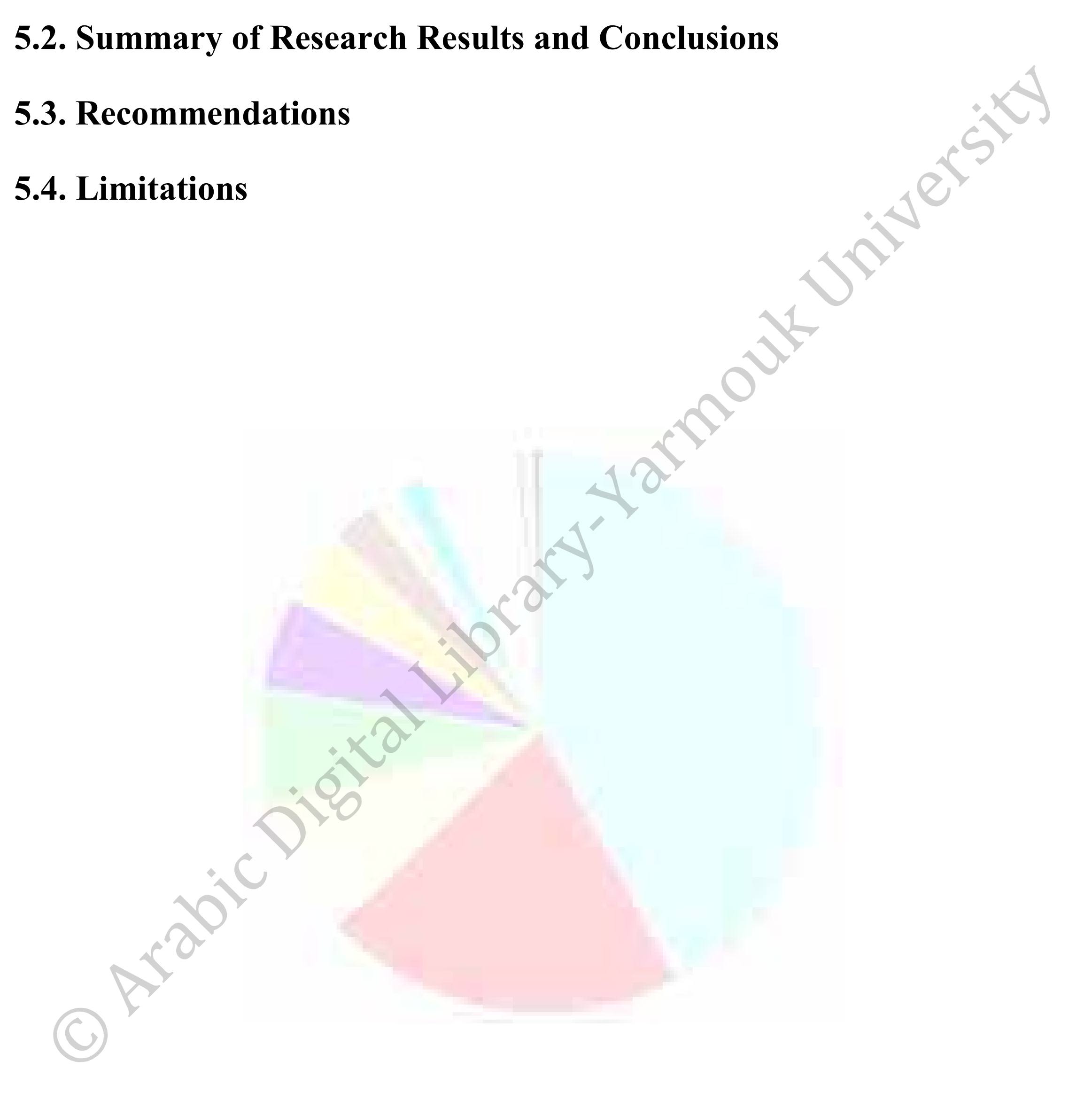
CHAPTER FIVE: CONCLUSIONS

5.1. Introduction

5.2. Summary of Research Results and Conclusions

5.3. Recommendations

5.4. Limitations



5.1. Introduction

In the previous chapter, the results of testing the hypotheses were presented and discussed. The purpose of this final chapter is to conclude the current study by discussing its findings, limitations, and related future research opportunities. The chapter is structured as follows: Section 5.2 summarizes the main findings of the study. Recommendations for future research are presented in Section 5.3.

5.2. Summary of Research Result and Conclusion

There is a considerable amount of literature on voluntary disclosure. However, few studies focus on graphical disclosure in the annual reports. This study extends previous studies by investigating the extent and nature of using graphs in the annual reports of Arabian banks, and determining whether or not these banks use graphs as a tool of impression management.

The results show that 58 percent of Arabian banks use graphs in their annual reports. This percentage is considered low compared with other courtiers. The average number of graphs per an annual report is (9). The most frequently graphed variables are ownership equity and deposit. In addition, the most frequently used graphs are column, pie and line.

Kuwaiti and Moroccan banks use graphs more extensively than other banks. In addition, Gulf council banks use graphs in their annual reports

less extensively than Non-Gulf council banks. This may be attributed to certain cultural differences between the two groups.

The results also show that bank performance influences positively the extent of using graph in the annual report. On the other hand, non-executive directors seem to have a negative impact on the graphs used. It seems that non-executive directors are aware of the possibility of using graphs as an impression management tool. Accordingly, they try to limit their use in the annual reports.

The study provides clear evidence that Arabian banks use graphs as a tool of impression management. Two frequently used techniques to create a certain impression in the users mind: constructing graphs without zero base and using multiple amount of scales on the same graph. The most influential variables on the bank's decision to use graphs as a tool for impression management, are: the type of auditing firm and the bank performance. The annual reports of Arabian banks audited by the big-4 firms contains more manipulated and distorted graphs. In addition, banks with low net income or decreasing earnings tend construct graphs in a way that distorts the information presented through them and creates a completely different impression in the minds of the users.

5.3. Recommendations

Based on the results found, the study recommends the following:

- Regulators in Arab countries may need to set special guidelines for good graph construction to be followed by firms wishing to use graphs in their annual reports.
- Users of annual reports need to be aware of the fact the graphs can be used as a tool for twisting facts and creating a certain impression in their minds. More specifically, they need to be aware of the different graph construction techniques used to distort graphs .
- Professional audit bodies and associations may need to held awareness and training sessions for auditors on the criteria of good-graph construction.
- Professional audit bodies and associations may need to set regulations that prevent auditors from helping firms in using graphs in a distorted way to the users of the annual report.
- Future research may replicate the current study on other sectors.
- Future research may investigate the perception of annual reports users about graphs.
- Future research may also explore other variables characteristics that affect the extent and nature of using graphs by firms to present information in their annual reports.

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APPENDICES

Appendix (1): Summary statistics of graph characteristics

	Min.	Max.	Mean	S.D
Graphs used	0	20	5.38	5.97
Financial graphs	0	4	1.12	1.27
Not inserting frames	0	1	0.80	0.60
Using colors in graphs	0	1	0.50	0.50
Number of colors used	0	15	2.24	3.31
Without zero base	0	1	0.50	0.47
Multiple amount of scale	0	1	0.70	0.30

Appendix (2) Frequency for colors used and financial variables graphed

Number of colors used	No.	%	Cumulative %
0	25	0.5	50
1	2	0.04	54
2	9	0.18	72
3	2	0.04	76
4	2	0.04	80
5	4	0.08	88
7	1	0.02	90
8	2	0.04	94
10	2	0.04	98
15	1	0.02	100
Total	50	100	
Number of financial variables graphed	**No.**	**%**	**Cumulative %**
0	23	0.46	46
1	9	0.18	64
2	10	0.2	84
3	5	0.1	94
4	3	0.06	100
Total	50	100	100

Appendix (3): Correlation matrix for the independent variables

Variables	Age	Performance	Bank's size	Board size	Type	Nationality	Audit firm	Board independence
Age	1							
Performance	-0.063	1						
Bank's size	-0.235	0.562	1					
Board size	0.208	0.311	0.102	1				
Type	-0.061	0.294	0.379	-0.113	1			
Nationality	-0.223	0.218	0.164	-0.154	0.074	1		
Audit firm	-0.103	0.242	0.09	0.134	-0.071	0.509	1	
Board independence	0.006	-0.037	-0.095	0.155	-0.159	-0.112	-0.192	1